

## FUNGUS GNATS (DIPTERA: SCIAROIDEA) NEW TO BRITAIN

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**Abstract:** The British fauna of the families Ditomyiidae, Keroplatidae and Mycetophilidae is updated and changes introduced in the checklist explained. Six species of Mycetophilidae are newly described: *Clastobasis loici*, *Sciophila caesarea*, *Brevicornu rosmellitum*, *Mycetophila eppingensis*, *M. deflexa*, *Phronia carli* (the two latter previously misidentified as *M. gratiosa* Winnertz and *P. longelamellata* Lundström respectively). A new name is also proposed for a homonym: *Exechia macula* for *E. maculipennis* (Stannius). *Dynatosoma norwegiense* Zaitzev & Økland is indicated to be *thoracicum* sensu Landrock of the checklist. *Sciophila quadriterga* Hutson is a synonym of *S. thoracica* Staeger. Lectotypes are designated for *S. thoracica* and *Boletina sciarina* Staeger. A lectotype designation for *Mycetophila bicincta* Staeger is considered inappropriate. The seven species additional to the Royal Entomological Society Handbook dealing with part of this group are figured. New British records of 27 species are provided, one species is new for Ireland and two species are new for the Channel Islands.

## INTRODUCTION

In the recent new checklist of British Diptera (Chandler, 1998c), 17 species of fungus gnats were listed as "added by Chandler (in preparation)" and the existence of several undescribed species was also mentioned. One of the latter has already been described (Chandler, 1999) and most of the others are described here; the *Docosia* and *Cordyla* species will be dealt with elsewhere. Comment is given on the British status of the species newly added in the checklist and also on the three species added in Recording Scheme reports (Chandler, 1997, 1998a) and one added in an Exhibition Report (Chandler, 1994b).

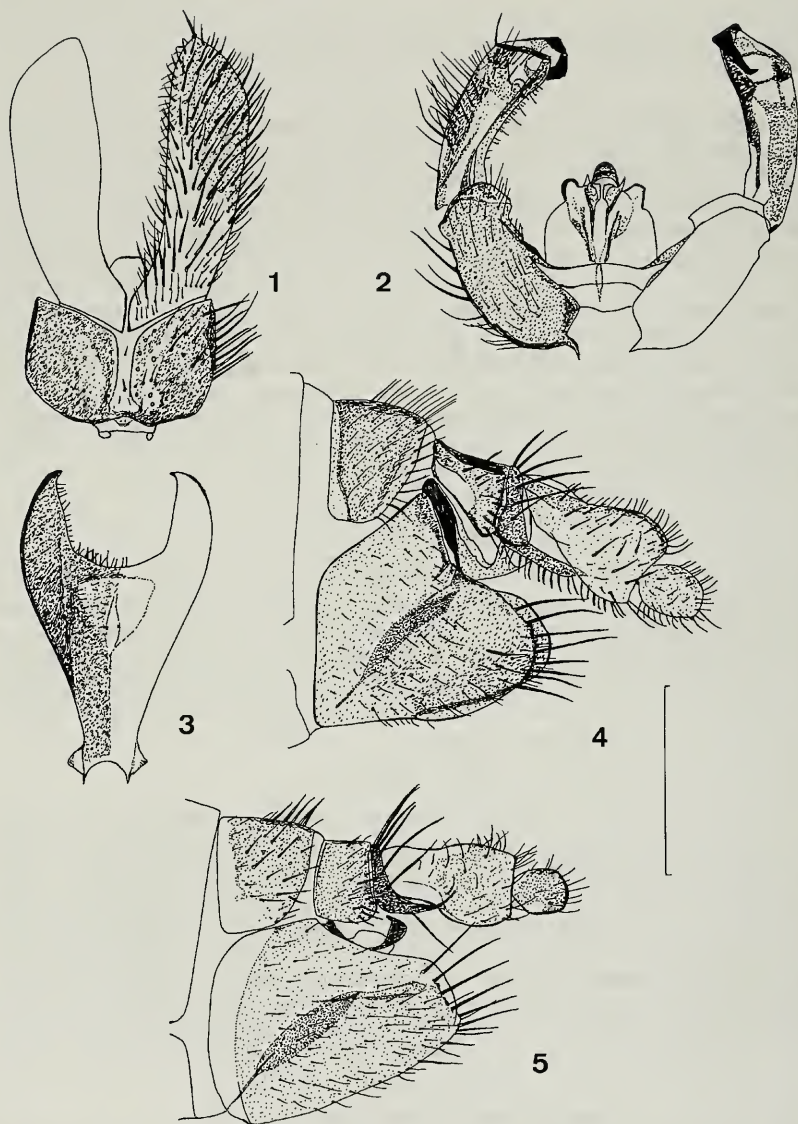
Of the species dealt with here, all of those belonging to groups covered in the Handbook by Hutson *et al.* (1980) are figured and their diagnostic characters indicated. For the Mycetophilinae, where there is not yet a Handbook, only the new species and one newly recorded for the Palaearctic Region are treated in this way.

Material listed is in the collection of the author or other collectors unless stated otherwise. The Museums involved are abbreviated as follows: BMNH = Natural History Museum, London; ETHZ = Eidgenössische Technische Hochschule, Zürich; NMS = National Museums of Scotland, Edinburgh; OXUM = Oxford University Museum; ZMUC = Zoological Museum of the University, Copenhagen.

## DITOMYIIDAE

*Symmerus nobilis* Lackschewitz (Figs 1–4)

This was reported (Chandler, 1997) as a surprising addition to the British list, based on three males from the same Scottish locality. It is easily distinguished from the widespread species *S. annulatus* (Meigen, 1830), which was present at the same site, on colour characters and the structure of the genitalia (Figs 1–4). The figure of the female is based on a Swiss specimen and the ovipositor of *S. annulatus* (Fig. 5) is figured for comparison. *S. nobilis* is widespread in Europe but apparently always scarce.



Figs 1–5. Genitalia of *Symmerus* species. 1–3, *S. nobilis* Lackschewitz, male: 1, tergite 9 and cerci; 2, ventral view of gonocoxites, gonostyli and aedeagus; 3, sternite 8. 4–5, lateral view of female genitalia: 4, *S. nobilis*; 5, *S. annulatus* (Meigen). Scale line 0.5 mm.

The two British *Symmerus* species can be separated as follows. The knob of the halteres is black and the legs yellow in both species:

### Males

Thorax yellowish except for three fused shining dark brown stripes on mesoscutum, the middle stripe extending to the fore margin. Abdomen with tergites black, sternites 1–4 yellow, rest and genitalia brown. Head dark brown; antenna with scape and pedicel yellow but flagellum all black. Wing length 6.0–6.1 mm

*nobilis* Lackschewitz

Thorax more uniformly yellowish brown with two vague broad brown lateral stripes near wing base and median stripe absent. Abdomen with yellow basal bands on tergites 2–7, sternites all yellow. Antenna with basal part of flagellum also yellow. Wing length 6.2–7.3 mm.

*annulatus* (Meigen)

### Females

Thorax entirely shining black on mesoscutum, pleura and mediotergite brownish yellow. Abdomen entirely shining dark brown and ovipositor brown. Antenna as male, scape and pedicel more brownish yellow. Wing length 7.1 mm (1 Swiss specimen).

*nobilis* Lackschewitz

Thorax as male, but usually with shining median stripe to fore margin (reddish brown or sometimes darker; occasionally stripes fused with only humeral area pale) and with dark marking on lower part of laterotergite and mediotergite. Abdomen dark brown to segment 7, but ovipositor paler, more yellowish. Antenna as male, with flagellum yellow to flagellomeres 5–6 (or less in darker specimens). Wing length 5.1–6.3 mm.

*annulatus* (Meigen)

British material of *S. nobilis*:

SCOTLAND: *Inverness-shire*, Glen Coiltie, around piles of fallen branches by River Coiltie in mixed deciduous woodland, 3 males: 21.vii., 23.vii and 24.vii.1997 (Chandler, 1 male in NMS).

## KEROPLATIDAE

### *Orfelia bicolor* (Macquart) (Figs 6–8)

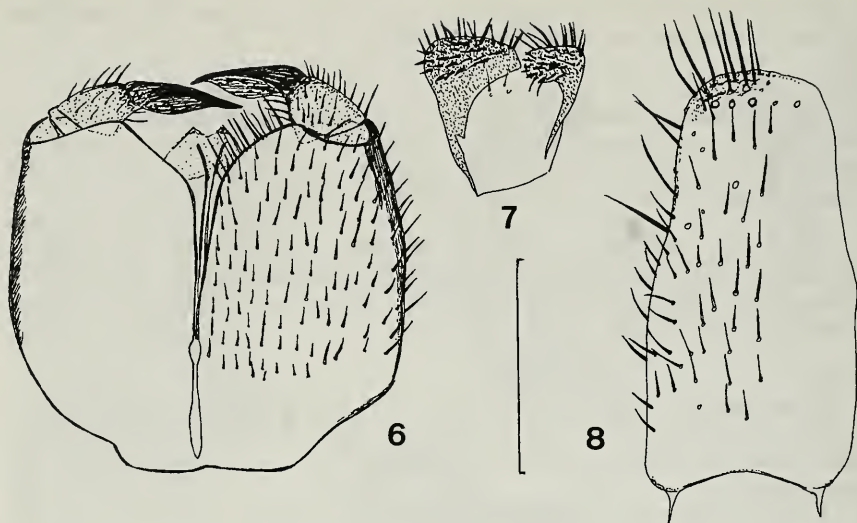
This species was recorded as British by Chandler (1992a), who figured the ovipositor, based on a single female from Magor Marsh, Gwent in Wales. One male has now been found in Britain, from which the genitalia are figured (Figs 6–8). This was obtained from a forested site, which is more typical of the habitats in which *O. bicolor* has been recorded in Europe.

As in the case of the female, it does not fit either of the alternatives in couplet 1 of the key to the genus by Hutson *et al.* (1980), since the thorax is dark dorsally while the pleura, a narrow humeral area and the apical margin of the scutellum are yellowish; the mediotergite is darker yellowish. The abdominal tergites 2–4 and 6 are yellow on the apical half (or more on tergite 2), tergite 5 is dark and the genitalia are brown. The gonostylus is single in common only with *nemoralis* (Meigen) and *pallida* (Staeger) among British *Orfelia* species, but differs from them in its simple narrow and apically flattened form. Wing length of this specimen 3.2 mm.

British male material of *O. bicolor*:

ENGLAND: *Bucks*, Burnham Beeches, Malaise trap, 20.vii–2.viii.1995. 1 male (J.W. Ismay; in author's collection).





Figs 6–8. Male genitalia of *Orfelia bicolor* (Macquart). 6, ventral view of gonocoxites, gonostyli and aedeagus; 7, cerci; 8, tergite 9. Scale line 0.2 mm.

## MYCETOPHILIDAE

### Gnoristinae

#### The *Boletina sciarina* Staeger Group

Zaitzev & Polevoi (1995) described four new species of the *B. sciarina* Staeger group from Russian Karelia and two of these, *B. minuta* and *B. populina*, have now been found to occur in Britain. In the case of *B. minuta*, I had previously confused it with *B. moravica* Lundström which is an uncommon but widespread species in Britain. All of the species from couplet 16 onwards in the key by Hutson *et al.* (1980) belong to this group, which have the laterotergite ("pleurotergites" in the key) bare, the costa extended well beyond the tip of vein  $R_5$ , the antennal flagellum all dark and the hind coxa partly or entirely yellow.

With these additions, there are eleven British species which are reliably separated only on the structure of the male genitalia; all species are small, wing length less than 4mm, black bodied with mainly yellow legs. Most species of the group, apart from the very common *B. gripha* Dziedzicki and the frequent *B. trispinosa* Edwards, have the coxae entirely yellow but these two additions may have the coxae entirely yellow or slightly darkened basally.

*B. sciarina* was the earliest described species of this group (Staeger, 1840), of which *B. gripha* Dziedzicki is the commonest species and present interpretation follows Dziedzicki (1885), who described several other related species, so it is important to establish its identity. Staeger did not state how many specimens he described it from, but mentioned both sexes and gave a size range and flight period. Edwards (1924) only said of Staeger's types "the series includes some *B. sciarina* in Dziedzicki's sense and also some *B. gripha* Dz." I have examined Staeger's material (ZMUC), which comprises 12 males and 3 females, all assumed to be syntypes. One male is labelled

"Ordr. [= Ordrup, near Copenhagen] St." and one female is labelled "St."; other specimens are unlabelled but all presumably Danish. The males include 6 *B. gripha* (including the labelled specimen), 1 *B. hundstroemii* Landrock, 1 *B. populina*, 3 with abdomens partly missing so undeterminable and 1 *B. sciarina* sensu Dziedzicki. I have labelled the last specimen as lectotype to maintain established usage.

### *Boletina minuta* Polevoi in Zaitzev & Polevoi (Figs 9–12)

*B. minuta* is most readily recognised by the structure of the distal margin of the gonocoxites, which bear a long curved medial process with a simple rounded lobe and a shorter setose lobe lateral to it. It also differs from *B. sciarina* in the short blunt ended parameres (Figs 10–11).

The types were collected in a birch (*Betula*) and aspen (*Populus*) stand. The British material is from diverse deciduous woodland sites. I also have a male collected in conifer forest in Poland, Cisna, 20.ix.1991 (A.E. Stubbs). Wing length of material examined 3.2–3.5 mm.

British material of *B. minuta*

ENGLAND: *Berks*, Newbury, Greenham Common, 20.iv.1974, 1 male (D.M. Ackland, in author's collection); *Berks*, Windsor Forest, 10.v.1978, 1 male (Chandler). SCOTLAND: *Aberdeenshire*, Morrone Birkwood, 31.v.1998, 4 males (Chandler and I. Perry).

### *Boletina populina* Polevoi in Zaitzev & Polevoi (Figs 13–14)

This species, reported as British by Chandler (1998a), most closely resembles *B. sciarina*, agreeing with it in the form of the gonostylus, the pointed triangular medial process of the gonocoxites and narrow pointed parameres (Fig. 13). It differs in the parameres being shorter and strongly curved apically and in the more numerous rows of small spines on the cerci (Fig. 14). Wing length of material examined 3.2 mm.

The holotype was from an aspen (*Populus tremula*) stand; the Perthshire site is a gorge with mixed deciduous woodland, while the Aberdeenshire site is open birch (*Betula*) and juniper (*Juniperus*) woodland, rich in bryophytes, and the visit on which it and *B. minuta* were found was notable for producing 10 species of *Boletina* including six members of the *sciarina* group.

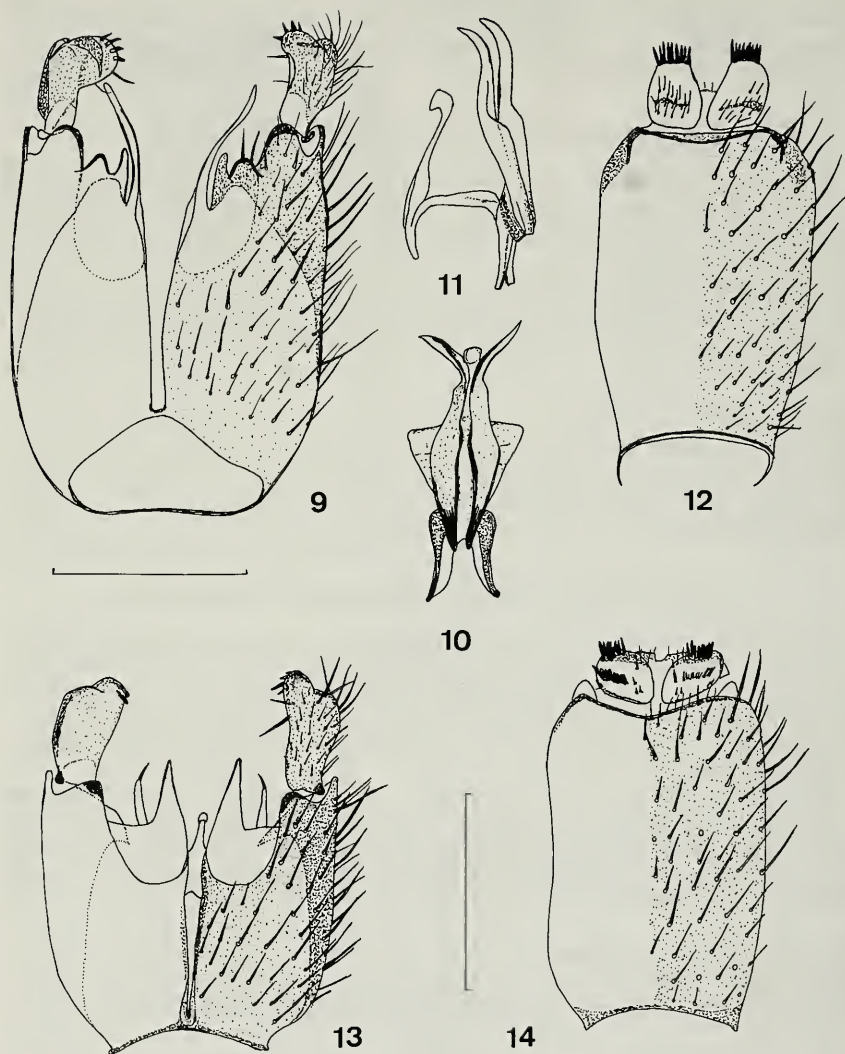
British material of *B. populina*

SCOTLAND: *Perthshire*, Pass of Killiecrankie, 25.vi.1997, 1 male (I. Perry); *Aberdeenshire*, Morrone Birkwood, 31.v.1998, 3 males (Chandler and Perry).

## Leiinae

### Genus *Clastobasis* Skuse

This is a genus new to the British Isles, which runs in the keys by Hutson *et al.* (1980) to *Leia* Meigen and most species of both genera are mainly yellow in colour. It agrees with most of the characters listed for *Leia*, except for vein sc-r ( $Sc_2$  in the key) being absent and the wings being clear yellowish without any marking; at least a subapical wing band is usually present in British species of *Leia*. It also differs in the



Figs 9–14. Male genitalia of *Boletina* species. 9–12, *B. minuta* Polevoi: 9, ventral view of gonocoxites and gonostylus; 10–11, aedeagus and parameres, dorsal and lateral views; 12, tergite 9 and cerci. 13–14, *B. populina* Polevoi: 13, ventral view of gonocoxites and gonostyli with aedeagus and parameres in situ; 14, tergite 9 and cerci. Scale line 0.25 mm (*minuta*), 0.2 mm (*populina*).



lateral ocelli being closer to the eye margins and the branches of the median fork at least slightly convergent apically,  $M_1$  being downturned apically. Most species of the genus, which is rich in species in the tropics, have annulated antennae, which are yellow with each flagellomere brown apically, a character not found in *Leia*.

The widespread European species *C. alternans* (Winnertz, 1863) is now known from southern England and a second species, here described as new, has been found on Jersey, Channel Islands. Although these species are of similar appearance, their genitalia are very different.

### *Clastobasis alternans* (Winnertz) (Figs 15–17, 21, 23)

*C. alternans* has been found at six localities in England north to Yorkshire in recent years, mostly at wooded fen or carr woodland sites with an anomalous record from Buckingham Palace Gardens where the only wetland vegetation is a narrow strip at the margin of the lake.

This species is predominantly yellow, with dark antennal and abdominal markings (Fig. 23). All flagellomeres are dark apically, this colour occupying progressively more of the length until the last flagellomere is nearly all dark. The abdomen has dark bands on the apical third to half of tergites 1–5, these bands narrowed medially on 1–4 but broadly extended to the base dorsally on tergite 5, with a slight dark patch at the base of tergite 6. The head has a dark patch internal to each lateral ocellus. Genitalia Figs 15–17 (male), 21 (female). The wing length of material examined is 4.2–4.4 mm (male) and 4.4–4.7 mm (female).

#### British material of *C. alternans*

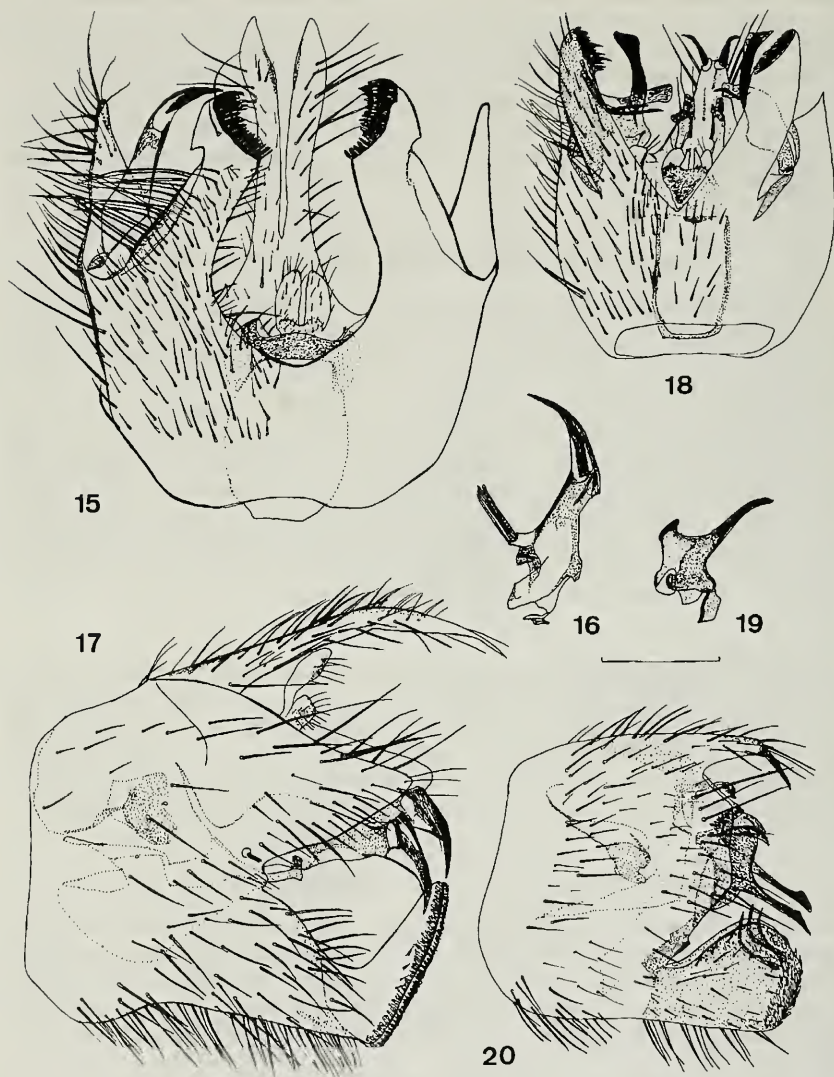
ENGLAND: *Middlesex*, Buckingham Palace Gardens, Malaise trap catch till 7.vii.1995, 1 male (via C. Plant); *Gloucs*, Coombe Hill Canal SSSI, 21.v.1994 (C.M. Drake); *Cambs*, Osier Lake, Godmanchester, late viii.1998, numerous in *Salix* carr (J.H. Cole); *Cambs*, Paradise, 19.vii.1998, 1 male (I. Perry); *Norfolk*, Wheatfen Broad, 10.vii.1993, 1 male (I. Perry); *Yorks*, Wheldrake Ings, 17.vii.1996, numerous in hedges by water meadows (Chandler and others, some deposited in NMS).

### *Clastobasis loici* sp. n. (Figs 18–20, 22)

Male. Mainly yellow with dark annulations on antenna and dark abdominal markings. Head yellow, more brownish on frons, with a black patch internal to each lateral ocellus. Antenna longer than mesoscutum; yellow with a dark apical marking on each flagellomere, increasing in extent on basal flagellomeres, occupying apical half of flagellomeres 9–13 and apical two thirds of elongate apical flagellomere. Palpus slender, yellow.

Thorax yellow except for shining brown disc of mediotergite. Thoracic hairs and setae yellowish to brown. Scutum with short yellow hairs on disc, strong marginal, postalar and prescutellar setae; prothorax with strong lateral setae and 4 strong downturned proepisternals; laterotergite with long fine yellow setae; 2 pairs strong scutellars.

Legs entirely yellow including long slender tibial spurs (1:2:2). Tibia 2 with 6 strong anterior setae (becoming anterodorsal on apical half), 5 strong posterodorsals, a weaker seta basal to each of these series and 2 weak setae in gap between last 2 posterodorsals; several short anteroventrals and posteroventrals and a complete series of shorter posterior setae. Tibia 3 with 8 stronger anterodorsals, with



Figs 15–20. Male genitalia of *Clastobasis* species. 15–17, *C. alternans* (Winnertz): 15, ventral view; 16, gonostylus; 17, lateral view. 18–20, *C. loici* sp. n.: 18, ventral view; 19, gonostylus; 20, lateral view. Scale line 0.2 mm.

several shorter intervening setae; 6 strong posterodorsals; shorter anteroventral, posteroventral and posterior series as on tibia 2.

Wing clear yellowish, with all veins yellow and setulose except short Rs which is bare. Crossvein r-m a little longer than stem of median fork. Vein  $M_2$  distinctly upturned apically and strongly convergent with  $M_1$  which is downturned apically.



Posterior fork with anterior branch slightly interrupted at base. Costa ends at tip of  $R_5$  before wing tip. Haltere yellow.

Abdomen mainly yellow with apical (medially narrowed) brown band on tergites 1–4, tergite 5 with the brown band extended towards fore margin medially; tergite 6 with brown basal band. Sternites yellow, with brown markings laterally on sternites 5–6. Genitalia (Figs 18–20) yellow with appendages brown: gonostylus broad basally, with slender blunt ended apical process.

Wing length 3.6–3.8 mm.

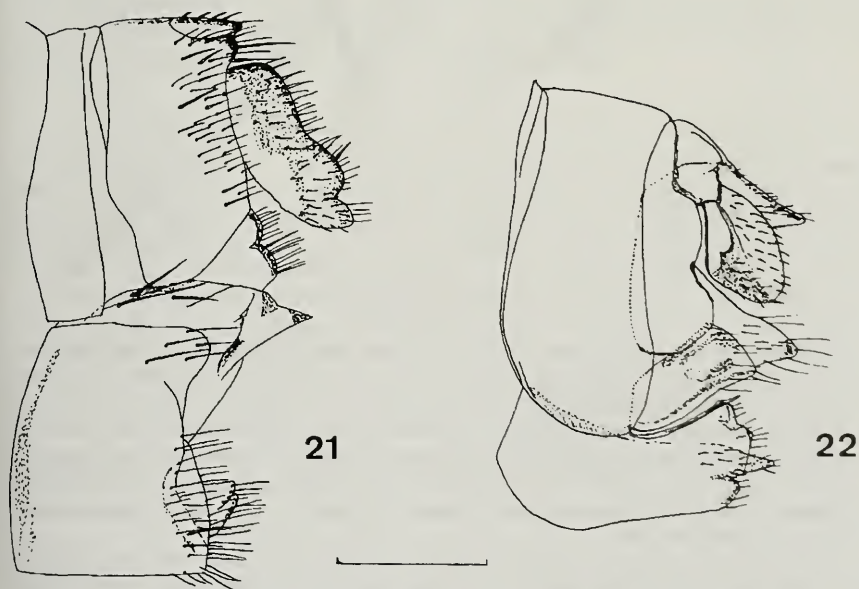
Female. Very similar to male, but antenna relatively shorter, distinctly shorter than mesoscutum. Abdomen with tergites 1–5 with a narrow apical brown band; sternites 6–7 sometimes with a brown patch laterally. Ovipositor (Fig. 22) yellow. Wing length 4.3–4.4 mm.

Holotype male, SWITZERLAND, Ticino, Bolle di Magadino, 16–20.vi.1995. B. Merz & G. Bächli, deposited in ETHZ.

Paratypes: 1 male, data as holotype; 3 males, 1 female, JERSEY. La Mielle de Morville, Malaise trap catch till 16.x.1993; 6 males, JERSEY, Waterworks Valley, St Laurence, Malaise trap catches till 21.vii.1993; 2 males, 1 female, till 28.viii.1994; 1 male, till 8.x.1994 (all A. Warne, in author's collection and pairs deposited in BMNH and NMS).

Other material: 1 male, CZECH REPUBLIC, N. Moravia, Olomouc-Cernovír. 1–2. vii.1958, P. Lauterer, MNHN.

Etymology. Named for the late Loïc Matile to acknowledge his contribution to knowledge of the Afrotropical fauna of fungus gnats.



Figs 21–22. Female genitalia of *Clastobasis* species, lateral view. 21, *C. alternans* (Winnertz); 22, *C. loici* sp. n.. Scale line 0.2 mm.



Fig. 23. Male of *Clastobasis alternans* (Winnertz), lateral view.

Discussion. This species was referred to as an undescribed species in the Swiss checklist (Chandler, 1998b) and its presence in the Czech Republic had been recognised by Petr Laštovka.

*C. loici* bears some resemblance in ventral view of its genital structure to the eastern Palaearctic species *C. gussakowskii* Zaitzev (1994) but a figure of *gussakowskii* in lateral view; forwarded by A.I. Zaitzev shows clear differences, especially in the form of the gonostylus which is broader with a short apical process without the slender neck.

*C. loici* is also very similar except in genital structure to *C. alternans*. The antennal flagellum has narrower brown bands, not increasing as much in extent on the apical flagellomeres, all of which are clear yellow basally. The wing venation differs in crossvein r-m being relatively shorter, not much longer than the stem of the median fork and the veins of the fork are more strongly convergent apically.

## Sciophilinae

### *Sciophila* Meigen

Additions reported here bring the total of British species of *Sciophila* to 21: a further species collected in Scotland by Ivan Perry awaits description by Alexei Polevoi. As indicated by Hutson *et al.* (1980) there are few reliable external characters for species recognition in this genus, colour characters being variable and structure uniform, so most species can be identified only from male genitalia. Since their work, *S. antiqua* Chandler had been added (Chandler, 1987b) and *S. baltica* Zaitzev was reported from Britain on one male by Chandler (1998a).

Some further specimens of *S. baltica* were unrecognised under *S. hirta* Meigen in both the Natural History Museum, London and my own collection. It can be confused with *hirta* due to the similar form of tergite 9, although this is relatively shorter and the unique keyhole-like gonocoxal structure can be seen without removal of the tergite.

It has now been realised that another species has consistently been confused under *S. hirta* in collections. I first recognised that material from Spain (Zaragoza, Monegros) differed in some respects of its male genitalia from typical *hirta* and then that the same form occurred in Britain; re-examination of the lectotype of *S. parviareolata* Santos Abreu, 1920, which was synonymised with *hirta* by Zaitzev (1982a), has confirmed the suspicion that this represented the second species. As the type of *hirta* is evidently lost, the name is reserved for the species figured by Hutson *et al.* (1980), which is the commoner species in Britain, and *parviareolata* is therefore available for the second species. All material identified as *hirta* will need to be checked.

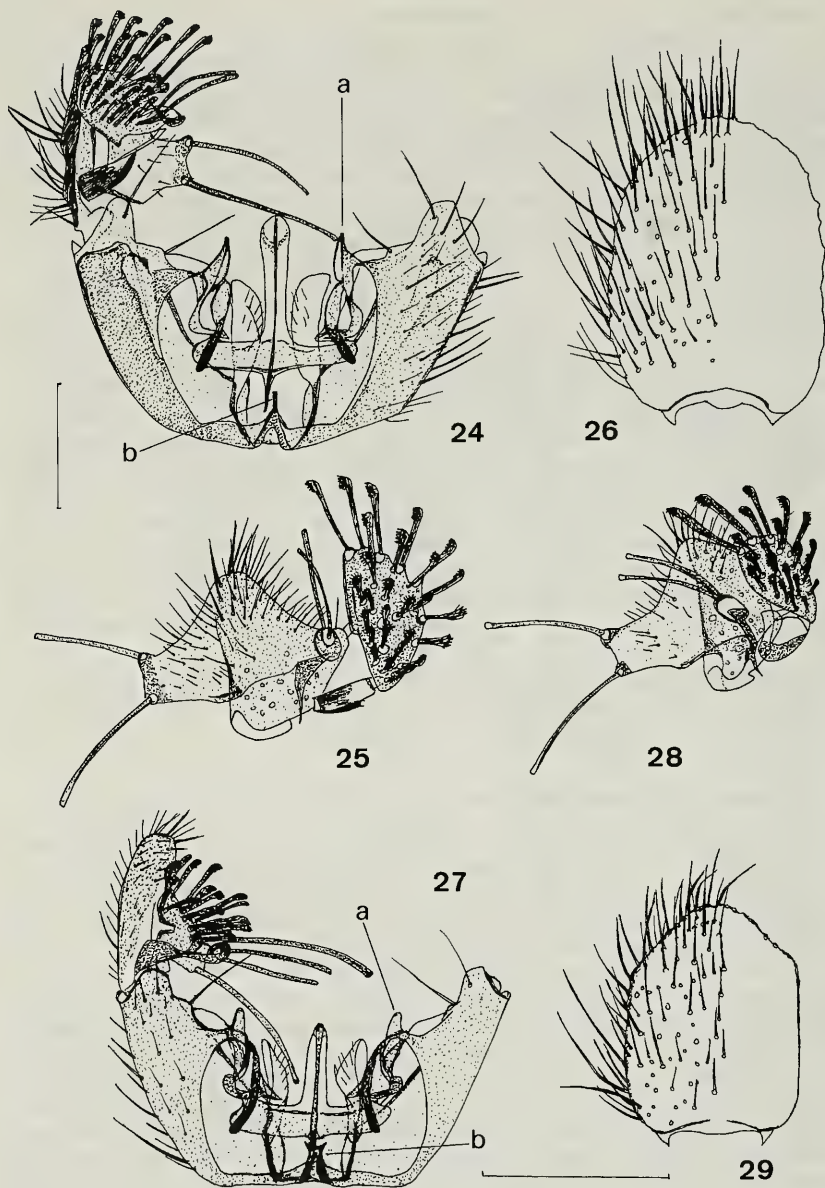
An undescribed *Sciophila* belonging to the *lutea* Macquart group occurs in the Channel Islands and has been found in other parts of western Europe. This will be described elsewhere (Chandler & Blasco-Zumeta, in press).

### *Sciophila hirta* Meigen and *S. parviareolata* Santos Abreu (Figs 24–29)

These species appear to be inseparable on external characters, both being small and mainly dark coloured with the sides of the thorax including the humeral areas more or less obscurely reddish or yellowish; the legs are yellow with a dark tip to the hind femur more or less apparent, although often vague, resulting in *hirta* being included in two sections of the key by Hutson *et al.* (1980); the antennae are dark with only the first flagellomere sometimes paler.

The figures of the male genitalia (Figs 24–29) show that they are similar in most respects, but draw attention to the points of difference: tergite 9 more evenly rounded apically in *hirta* (Fig. 26), more angular in *parviareolata* (Fig. 29); gonostylus with long macrochaetae on internal lobe usually longer and more numerous in *hirta* (27–29) (Fig. 25), often fewer (21–25) in *parviareolata* (Fig. 28), but some specimens with as many as in *hirta*; distal process of gonocoxal apodeme often broader laterally and tapered apically in *hirta* (Fig. 24, a), but more straight sided and blunt in *parviareolata* (Fig. 27, a); median sternal process between ventral lobes of gonocoxites with apical half narrow but slightly broadened and blunt apically in *hirta* (Fig. 24, b) while it is broad and bifurcate apically in *parviareolata* (Fig. 27, b). The last mentioned character is considered diagnostic while other characters may vary independently. The wing length of material examined is 3.3–3.8 mm (*hirta*) and 2.8–3.7 mm (British material of *parviareolata*; Spanish males 2.1 and 2.8 mm, lectotype 3.0 mm).





Figs 24–29. Male genitalia of *Sciophila* species. 24–26, *S. hirta* Meigen: 24, dorsal view with tergite 9 removed; 25, gonostylus, internal view; 26, tergite 9. 27–29, *S. parviareolata* Santos Abreu: 27, dorsal view with tergite 9 removed; 28, gonostylus, internal view; 29, tergite 9. Scale line 0.2 mm (*hirta*), 0.25 mm (*parviareolata*).

Most British records of *parviareolata* are of specimens taken indoors and the only recent records are those from Buckingham Palace Gardens. No rearing records can be assigned to this species. In addition to 13 British males, material from mainland Spain, Portugal and the holotype from the Canary Islands have been examined.

'Of the British material re-examined in this study, 33 males are confirmed to be *hirta*. These are from ENGLAND: Kent, Surrey, Hants, Bucks, Oxon, Herts, Essex, Cambs, Wores, Hereford, Cheshire, WALES: Merioneth and SCOTLAND: Midlothian and Inverness-shire (Aviemore), i.e. most counties listed by Hutson *et al.* (1980). This includes material reared from *Collybia uaculata*, *Inonotus hispidus*, *Trauetes versicolor*, *Bulgaria polymorpha*, *Auricularia auricula-judae* and a blackbird's nest. Other specimens, both reared by F.W. Edwards were labelled as from a "brownish larva on *Stereum* ? *stramineum* on spruce stump" (Hitchin, Herts) and "chocolate brown larva under decaying branch" (Madingley, Cambs).

British material of *S. parviareolata* (all records refer to single males):

ENGLAND: *Middlesex*, Buckingham Palace Gardens, Malaise trap, 12-24.viii.1995, 22.ix-30.x.1995 (via C. Plant, in author's collection); *Middlesex*, BMNH, 24.ix.1915 (F.W. Edwards, BMNH); *Oxon*, Oxford, 14.iii.1936 (O.W. Richards, BMNH); *Caubs*, Newmarket, Sussex Lodge, 8.v.1886, 18.iv.1887, 29.iv.1889 (BMNH), 6.vi.1887, 30.viii.1889 (OXUM) (G.H. Verrall); Newmarket, Raylands, on window, 7.v.1931, 8.vii.1931 (J.E. Collin, OXUM); SCOTLAND: *Midlothian*, Edinburgh, NMS, on window, 13.x.1920 (P.H. Grimshaw, NMS); *Pertshire*, Blairgowrie, 23.v.1908 (A.E.J. Carter, OXUM).

### *Sciophila baltica* Zaitzev (Figs 32-34)

This species runs to couplet 8 in the key by Hutson *et al.* (1980) but the character used in that couplet of the position of sc-r ( $Sc_2$  in the key) is not reliable as it is just before (The Coombe) or just beyond (New Forest) the base of Rs in specimens of *baltica* and similar variation occurs in *hirta* and *parviareolata*, where it may be before or in line with Rs. The antennal flagellum is either all dark or the first flagellomere yellowish. The thorax is broadly yellow to reddish on the humeral area and on the pleura; it is otherwise dark brown dorsally, with the scutellum, mediotergite and abdomen dark. The legs are yellow. The wing length is 2.7-3.4 mm in material examined.

The male genitalia (Figs 32-34) are distinctive. Tergite 9 (Fig. 34) is rounded apically as in the above species but shorter and bearing long marginal setae. The gonocoxites (Fig. 32) have broad dorsal lobes with a semicircular internal excavation, unlike any other known *Sciophila* species. The sites where I have found *S. baltica* are all ancient beech (*Fagus*) woodland.

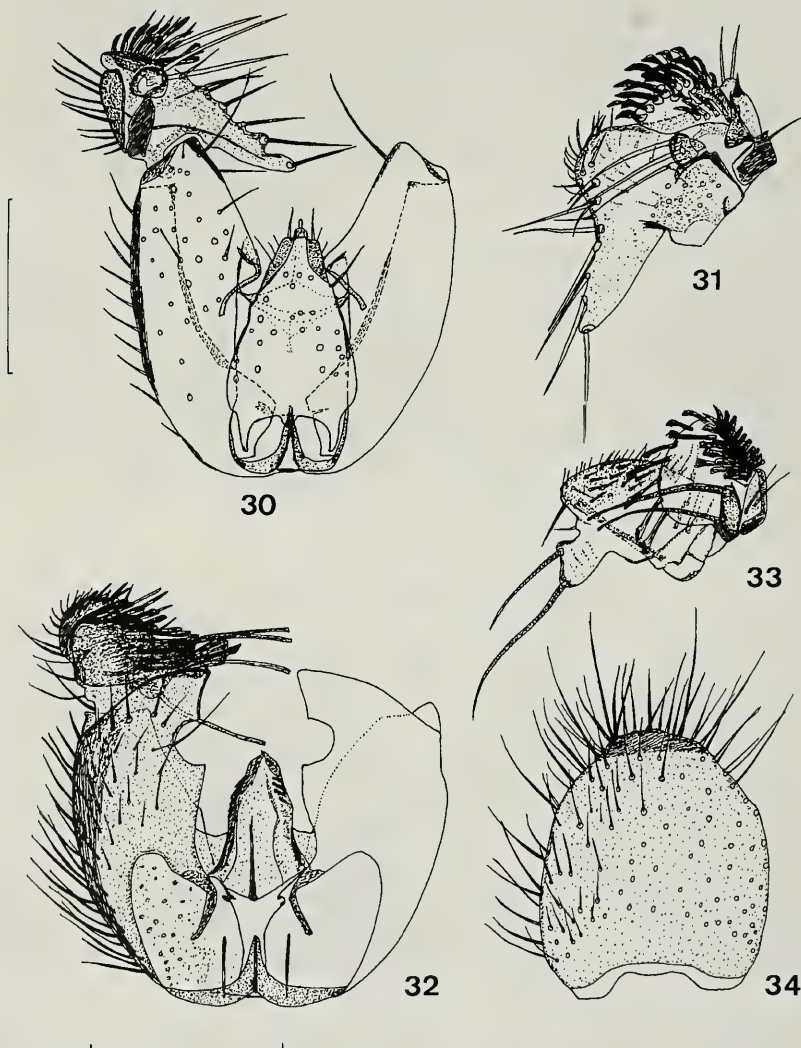
British material of *S. baltica*:

ENGLAND: *Hants*, New Forest, The Knowles, 8.vi.1986, 1 male; New Forest, Wood Crates, 8.vi.1986, 1 male; *Bucks*, Ashridge Estate, The Coombe, 17.vi.1997, 1 male (all Chandler); *Wilts*, Wilton, 4.vii.1974, 1 male (C.H. Andrewes, BMNH).

*Sciophila caesarea* sp. n. (Figs 30–31)

Male. A mainly shining black species, with yellow legs. Antenna longer than head and thorax together, with scape, pedicel and first two flagellomeres brownish yellow, rest brown; flagellomeres  $2.5 \times$  long as broad. Palpus brownish yellow.

Thorax shining black with pale yellowish humeral areas and prothorax brownish yellow; all setae yellow. Anepisternum with short pale setae, laterotergite with long pale setae. Scutellum with long yellow setae on disc and margin.



Figs 30–34. Male genitalia of *Sciophila* species. 30–31, *S. caesarea* sp. n.: 30, dorsal view with tergite 9 *in situ*; 31, gonostylus, internal view. 32–34, *S. baltica* Zaitzev: 32, dorsal view with tergite 9 removed; 33, gonostylus; 34, tergite 9. Scale line 0.25 mm.



Legs yellow, trochanters dark, tarsi more brownish. Hind femur dark on apical sixth. Femora with yellow hairs, tibiae with brown setulae, scattered darker setae are shorter than tibial width. Tibia 1 with 4 posteroventral setae on apical half; tibia 2 with 5 anterodorsal, 1 posterodorsal at apical third, 2 posterior setae near tip, 3 short posteroventrals on apical half; tibia 3 with 4-6 anterior, 4 anterodorsal and 4-6 dorsal setae.

Wing colourless with veins yellow; a uniform covering of microtrichia and macrotrichia over most of surface. Vein sc-r at junction with Rs, R<sub>4</sub> close to Rs forming small radial cell shorter than broad. Stem of median fork a little shorter than crossvein r-m. Posterior fork begins opposite level of tip of Sc. Fork veins reach margin. Costa exceeds tip of R<sub>5</sub> by nearly a third distance to M<sub>1</sub>. Haltere clear yellow.

Abdomen shining black with yellow setae. Genitalia (Figs 30-31) dark brown. Tergite 9 (*in situ* in Fig. 30) is short elongate, with a blunt apex bearing a small median protuberance. Gonostylus (Fig. 31) with rounded apical and short tapered ventral lobe, bearing long marginal setae, medially with internal lobes bearing a group of long apical flattened macrochaetae.

Wing length 2.7 (holotype) — 2.9 mm (paratype).

Female. Not recognised.

Holotype male, Channel Islands, JERSEY, Heatherview, St. Ouen. 15.viii.1991. A. Warne, deposited in NMS.

Paratype male, ENGLAND, *Northants*, Buckingham Thick Copse, trap A2. 9.vi.1992, A. Warne, in author's collection.

*Etymology*. The specific name refers to the Roman name of the island of Jersey, from which the modern name is derived, and is a noun in apposition.

*Discussion*. Although the two specimens were from the same collector, they were included in samples in accord with other material from the two areas so there is little likelihood of either being mislabelled.

*S. caesarea* runs to *S. nonnisilva* Hutson in the key by Hutson *et al.* (1980) except in the body not being all black. In the Holarctic fauna, its genital structure most closely resembles that of the Nearctic *S. laffooni* Zaitzev (Zaitzev, 1982a), especially in the form of the gonostylus; the gonocoxites are also similar and tergite 9 is short and tapered apically but broader.

### *Sciophila thoracica* Staeger

*Sciophila thoracica* Staeger, 1840

*Sciophila quadriterga* Hutson, 1979, syn. n.

*S. thoracica* Staeger (1840) was not identified in the revision of the genus by Zaitzev (1982a), who was unable to see the type material although he noted that a Russian specimen determined as *thoracica* by Stackelberg was *quadriterga* Hutson. Edwards (1924) studied Staeger's types and mentioned that *thoracica* had a distinctive structure to the male genitalia. During a recent visit to Copenhagen (ZMUC), I found these syntypes (two males and a female) to be as described by Edwards. Both males were *S. quadriterga*: one of them, of which the genitalia had been mounted on a microscope slide, had been labelled as lectotype by Pakarinen but this has not been published. I have labelled the same specimen as lectotype, which is established here. The second male was that referred to as var. b (with thoracic stripes present) by Staeger.

### Mycetophilinae

Here British distribution is summarised except for new or scarce species.

*Allodia (Allodia) embla* Hackman

Males can be determined from the genitalia figures in Hackman (1971). It was thought to be a boreal species and most British records (now 30 sites) are from SCOTLAND: East Ross, Nairn, Inverness-shire and WALES: Glamorgan, Radnor, Cardigan, Montgomery. Records from ENGLAND relate to Shropshire, Westmorland, Suffolk and ten wetland sites in Norfolk. The records from Wales and East Anglia result from surveys by the former NCC.

*Allodia (Allodia) zaitzevi* Kurina

This species was recorded from Ireland by Chandler (1987a) as *pyxidiiformis* Zaitzev, 1983. It is also common in Britain, having previously been confused with *A. ornaticollis* (Meigen). Kurina (1998) showed that the type series of *pyxidiiformis* included two species and the holotype was not the same species figured by Zaitzev (1983), which he described as *zaitzevi* to which British Isles material belongs. It has been examined from throughout Britain north to Sutherland.

*Allodia (Brachycampta) protenta* Laštovka & Matile

Laštovka & Matile (1974) figured the male genitalia. This was trapped in 1988 on the NCC wetland surveys at three sites in WALES: Anglesey (wet meadows) and ten sites in ENGLAND: *Norfolk*, eight sites (including reedbeds and carr woodland); *Suffolk*, Walberswick and *Cambs*, Chippenham Fen. It was also obtained in 1989 in a Malaise trap at Cromle y Veddy (SC300857), ISLE OF MAN (S.M. Crellin).

*Allodia (Brachycampta) westerholtsi* Caspers

Caspers (1980) figured the male genitalia; the name *retracta* Plassmann, 1977 was used for it for a time following Caspers & Plassmann (1986) but this has now been corrected (Caspers, 1996). The British sites are broad-leaved woodland, mainly beech (*Fagus*) on chalk or limestone:

ENGLAND: *Surrey*, Box Hill, 11.vii.1992, 1 male (Chandler); *Gloucs*, Workman's Wood NNR, 11.x.1979, 1 male (I.F.G. McLean); *Gloucs*, Chedworth, 12.x.1979, 1 male (A.E. Stubbs).

*Allodiopsis korolevi* Zaitzev

This was figured by Zaitzev (1982b) from Russia. The British site is a small area of mixed woodland, including conifer plantations. Remarkably *Mycetophila stricklandi* (Laffoon) (see below) was found there two days later on a visit to follow up the find of *A. korolevi*.

British material of *A. korolevi*:

ENGLAND: *North Yorks*, Boltby, Spring Wood, 17.vii.1996, 1 male (A.E. Stubbs).

*Brevicornu arcticoides* Caspers

The male genitalia were figured by Caspers (1985). Emley (1992) recorded it as *arcticoides* from Staffordshire, but Chandler (1998c) suggested synonymy of this with *fasciculatum* Lackschewitz (1937). However, Chandler (2000) confirmed that

*arcticoides* was a good species, based on the findings of Alexei Polevoi that *fasciculatum* was not conspecific. The British sites are more or less wooded.

British material of *B. arcticoides*:

ENGLAND: *Norfolk*, Sutton Broad, water traps, 21.viii–4.ix.1989, 1 male; viii.1990, 1 male (A. Foster & D. Procter); *Staffs*, Sandwell Valley, Malaise trap, vii.1988, 1 male (M.G. Bloxham).

### *Brevicornu glandis* Laštovka & Matile

The male genitalia were figured by Laštovka & Matile (1974). This is another species added by the NCC wetland surveys and was found at 20 sites in ENGLAND: Berks, Oxon, Norfolk and WALES: Anglesey. It was also found in IRELAND in a survey of the Burren Grikes, County Clare (Chandler *et al.*, 2000).

### *Brevicornu intermedium* (Santos Abreu)

This is a frequent species which had previously been confused with *B. fissicauda* (Lundström), which is also frequent. Zaitzev (1985) figured it as *hissaricum* Zaitzev, but this was synonymised by Chandler (1994a) and Chandler & Ribeiro (1995). Both species have sternite 8 forked apically and the gonostylus very similar. They are best separated by the sternal process between the ventral lobes of the gonocoxites, deeply bifurcate with long pointed lobes in *intermedium* but only narrowly divided into short rounded lobes in *fissicauda*. Material examined is from southern ENGLAND: Berks, Middlesex, Cornwall, Norfolk and WALES: Anglesey.

### *Brevicornu rosuellitum* sp. n. (Figs 35–36)

*Brevicornu nigrofuscum*: Zaitzev, 1988, misidentification, not (Lundström, 1909)

Male. Head grey dusted. Antenna brownish yellow basally, flagellum dark.

Thorax grey dusted with yellowish decumbent setae on mesoscutum, the larger marginal and postalar setae darker; 1 pair of strong dark scutellars; 3–4 proepisternals; long yellow to brown setae on laterotergite.

Legs yellow. Tibia 2 with 7 anterior, 3 posterodorsal and 4 posterior setae. Tibia 3 with 7–8 anterodorsal, 4–5 posterodorsal and 5 posterior (on apical half) setae.

Wing clear yellowish, radial veins darker. Crossvein r-m two thirds length of stem of median fork. Posterior fork begins just basad of base of median stem.

Abdomen mainly grey dusted. Tergites 2–4 with yellow lateral patch occupying about half height of tergite. Genitalia (Figs 35–36) yellow.

Wing length 2.4–2.6 mm.

Holotype male, ENGLAND, *Oxon*, Waterperry Wood, at honey-dew, 12.x.1968 (J. Brock, Liverpool Museum).

*Paratypes*: 4 males, data as holotype (J. Brock, Liverpool Museum); 1 male, ENGLAND, *Oxon*, Waterperry Common, 29.ix.1968, (J. Brock, in author's collection).

*Etymology*. The specific name is an adjective indicating association with honey-dew.

*Discussion*. Zaitzev (1988) figured this species, which he recorded from USA and Canada, and identified as *nigrofuscum*. The British species figured by Edwards (1925)





Figs 35–36. Male genitalia of *Brevicornu rosmellitum* sp. n. 35, ventral view of gonocoxites and gonostylus; 36, internal view of right gonostylus. Scale line 0.2 mm.

is, however, not conspecific but more likely to be *nigrofuscum* of Lundström (1909). Zaitzev's species has been found in Britain and is here described as new.

### *Exechia bicincta* (Staeger)

The interpretation of this name follows Edwards (1924), who examined Staeger's types (ZMUC). These comprise two specimens, labelled respectively as male and female and the usage is based on the first of these. Edwards proposed the name *dizona* for *bicincta* sensu Lundström (1909). He evidently did not examine the "female" specimen as I have found this to be a male of *E. dizona*. Unfortunately, Staeger's description refers only to the female and his "male" must have been added later, so the *dizona* male is more likely to be the type. As this cannot be certain, I have not selected a lectotype in order to maintain current usage.

### *Exechia chandleri* Caspers

The male genitalia were figured by Caspers (1987). It has been found at several wooded and wetland sites in southern England.

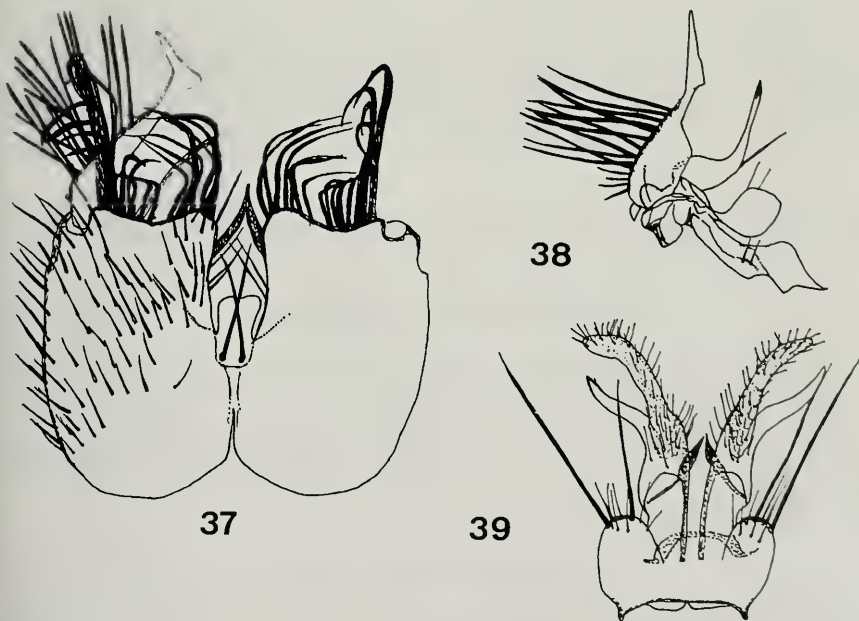
British material of *E. chandleri* (1 male at each site):

ENGLAND: *Bucks*, Burnham Beeches, Malaise trap in bog, 20.vii–2.viii.1995 (J.W. Ismay); *Oxon*, Weston Green Fen, vii–viii.1987 and Chimney Meadows Ditch, ix–x.1991 (Malaise traps, K. Porter); *Northants*, Buckingham Thick Copse, 6.ix.1991 (A. Warne); *Somerset*, Priddy Pools, 16.x.1986 (A.E. Stubbs); *Essex*, Epping Forest, Monument Field, Malaise trap, 21.viii.1998 (J. Dagley).

*Exechia cincinnata* Johannsen (Figs 37–39)

This species was described from North America (USA, New England) and this is the first record for the Palaearctic. Johannsen (1912) figured the male genitalia, showing the series of bent setae on the gonocoxites. The British specimen was compared with Nearctic material which I collected a few weeks previously, in broad-leaved and mixed forest. The British site is dry broad-leaved woodland dominated by beech (*Fagus*).

*E. cincinnata* is brightly coloured. The thorax is brownish yellow, more yellowish on the sides of the mesoscutum. The abdomen has large yellow markings: sides of tergite 1; most of 2–3, which have a narrow dark stripe medially, broadened narrowly on fore margin and as a triangular area on posterior half; 4 has a yellow lateral spot on basal half in British male, absent in Nearctic specimens (although present in Johannsen's types). The male genitalia (Figs 37–39) are yellow and very distinctive in structure: cerci strap shaped with dense short setae apically; gonostylus with 2 narrow lobes, the



Figs 37–39. Male genitalia of *Exechia cincinnata* Johannsen. 37, ventral view; 38, internal view of gonostylus; 39, tergite 9 and cerci.

outer with strong erect external setae; gonocoxites with close set bent setae on distal margins, the medial and lateral strongest. Wing length 2.6–3.0 mm.

Nearctic material examined of *E. cinnamata*:

CANADA: *Ontario*, Manitoulin, Killarney State Park, 31.viii.1994, 1 male; USA: *Michigan*, Ottawa National Forest, Sylvania Wilderness, ancient maple forest, 3.ix.1994, 2 males; USA: *Wisconsin*, Rib Mountain State Forest, 4.ix.1994, 1 male (Chandler).

British material of *E. cinnamata*:

WALES: *Denbigh*, Loggerheads Country Park, 14.x.1994, 1 male (Chandler).

### *Exechia cincta* Winnertz

The male genitalia were figured by Dziedzicki (1915); the ovipositor was figured by Chandler (1977) from a French specimen. *E. cincta* has been found at a dozen sites scattered across southern ENGLAND: Cornwall, Devon, Hants, Berks, Surrey, Hereford, Wores and South WALES: Cardigan.

### *Exechia macula* nom. n.

*Mycetophila maculipennis* Stannius, 1831, not Say, 1824 [= *Leia winthemii* Lehmann, 1822]

*Exechia maculipennis* (Stannius, 1831)

As indicated by Chandler (1998c) *maculipennis* Stannius is a junior primary homonym. The replacement name proposed here is a noun in apposition (=spot, referring to the small faint median wing spot across the basal third of the median fork, absent in other British *Exechia* species). Identification of this species is based on the genitalia figures by Dziedzicki (1915).

British material of *E. macula*:

ENGLAND: *Norfolk*, Bure Marshes, Woodbastwick, water trap, 17–31.viii.1989, 1 male (A. Foster and D. Procter).

### *Exechia pectinivalva* Stackelberg

Stackelberg (1948) figured the male genitalia. It was found at 43 sites in WALES (all vice-counties except Monmouth and Flint), mostly blanket or raised bog and valley fens, by the NCC wetland survey. There are also a few records from similar sites in ENGLAND: Shropshire and Cumbria, an old record for Crowborough, Sussex (1916) and one record from SCOTLAND: *Perthshire*, Black Wood of Rannoch (1987).

### *Exechia repandoides* Caspers

This species is closely related to *E. repanda* Johannsen, differing most obviously in the shorter blunt outer lobe of the gonostylus. Caspers (1984) figured the male genitalia. It has been found at several scattered broad-leaved woodland and carr sites in southern ENGLAND: Oxon, Gloucs, Cambs, Norfolk and Suffolk.



*Exechiopsis (Xenexechia) membranacea* (Lundström)

The male genitalia were figured by Caspers (1984). It had previously been confused with the frequent *E. leptura* (Meigen) and separation of females of these species is still uncertain. *E. membranacea* has been recorded at a dozen sites, both woods and wetlands, in southern ENGLAND: Somerset, Wilts, Hants, Herts, Berks, Oxon, Bucks, Hunts and Leics.

*Dynatosoma nigromaculatum* Lundström

Chandler (2000) corrected the suggestion by Chandler (1998c) that this species was a synonym of *D. abdominale* (Staeger, 1840). Ševčík (in press) has shown that there are small differences in the medial part of the gonostylus between these species and *D. schachtii* Plassmann (1999), which also has very similar genital structure

*Dynatosoma norwegiense* Zaitzev & Økland

*Dynatosoma thoracicum*: Landrock, 1930, not (Zetterstedt, 1838)

This species was recorded by Chandler (1994b) on specimens from Bucklebury Common, Berks. It was obvious that the figures by Landrock (1930) represented it, but did not correspond to *thoracicum* (Zetterstedt, 1838) as figured by Zaitzev (1986), whose identification was confirmed by Kallweit (1990), who examined Zetterstedt's type. Zaitzev & Økland (1994) described *norwegiense* from Norwegian material and did not mention Landrock's paper, but it is considered from comparison of British material with their figures that they are conspecific although the mesoscutum is described as yellowish brown with two indistinct dark stripes while British material has it uniformly orange brown. The synonymy of this group of the genus is, however, uncertain and the identity of three other Zetterstedt names requires clarification.

Ševčík (in press) records *norwegiense* from Slovakia and there is a male in BMNH from Austria, labelled "Hochobir, Car. Mader" (no collector or date).

British material of *D. norwegiense*:

ENGLAND: *Berks*, Bucklebury Common, 12.vii.1989, 1 male (A.E. Stubbs) and 6.vi.1993, 1 female (Chandler); *Berks*, Windsor Forest, 15.viii.1994, Malaise trap, 1 female (via J. Brock); *Herts*, Ashridge Estate, 8.vii.1999, 3 males (Chandler); *Hants*, New Forest, The Knowles, 16.vii.1995, 1 female and Denny Wood, 9.vii.1998, 1 male (I. Perry).

*Mycetophila deflexa* sp. n.

*Mycetophila gratiosa*: Chandler, 1988, misidentification, not Winnertz, 1863

Male. Head dark brown, grey dusted. Antenna brownish yellow to basal half of first flagellomere, rest brown; flagellomeres about twice as long as broad. Palpus yellowish brown.

Thorax shining dark brown with narrow yellow humeral area on each side and yellow prothoracic spiracular area. Decumbent mesoscutal and anepisternal setae yellow, stronger marginal setae including postalar, prescutellar, 2 pairs of strong scutellars and strong setae on prothorax dark brown; shorter brown setae on posterior part of anepisternum, upper margin of anepimeron and on laterotergite.

Legs yellow, with femur 3 narrowly brown apically. Tibia 2 with 3 anterior, 1 anterodorsal (beyond anterior setae), 4 dorsal, 2 short posterior (near tip) and 3 long ventral setae. Tibia 3 with 7 anterior (4th to 6th setae progressively shorter), 0 anterodorsal and 5 dorsal (without shorter interspersed setae) setae. Tibia 2 with first two rows and tibia 3 with first anterior row of setulae (adjacent to anterior setae) dark brown, the rest on 3 mainly yellowish with the second row only brown on the apical third.

Wing yellowish with two more or less strong brown markings: a spot over  $R_s$  and the base of the median fork, which is weaker and almost interrupted in cell  $r_5$ ; a preapical band distal to tip of  $R_1$ , reaching tip of  $R_5$  so filling the end of cell  $r_1$ , narrowed basad behind  $R_5$  and extending across median fork in which it is interrupted. Radial veins except  $R_s$  strongly setose below,  $R$  with 32–36 setae below,  $r-m$  with 3–4 setae but vein  $tb$  bare beneath. Haltere yellow.

Abdomen dark brown with genitalia (figured by Chandler, 1988) yellow. Gonostylus with ventral stylomere bearing 4 strong spinose setae on its distal margin, the outermost longer and strongly bent in the middle; dorsal stylomere bluntly triangular with 2 long setae apically.

Wing length 2.4–3.0 mm.

Female. Not certainly recognised.

Holotype male, ENGLAND, Surrey, Chobham Common, Gracious Pond, 16.x.1984 (Chandler, deposited in NMS).

*Paratypes*: ENGLAND: 1 male, same data as holotype; 1 male, *Bucks*, Burnham Beeches, 13.v.1990; 1 male, *Berks*, Windsor Forest, Highstanding Hill, 27.vii.1991; 1 male, *Berks*, Dinton Pastures Country Park, Sandford Copse, 7.x.1998 (all Chandler).

*Etymology*. The name refers to the bent spines on the gonostylus.

*Discussion*. Chandler (1988) recorded this species as new to Britain under the name *gratiosa* Winnertz, 1863 and figured the male genitalia. However, according to A.I. Zaitzev (pers. comm.) he has examined specimens of both this species and of a species agreeing better with the genitalia figures by Dziedzicki (1915) with the gonostylar spines shorter and not bent, which he considers the true *gratiosa*, so the British species is here described as new.

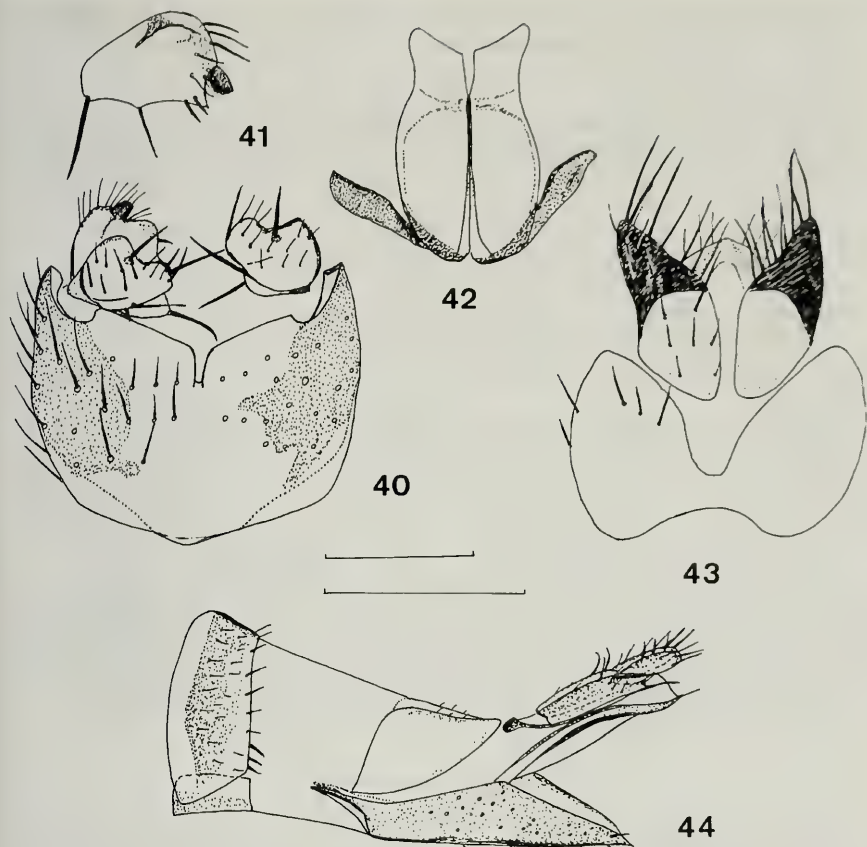
As indicated by Chandler (1988) it is close to *M. luctuosa* Meigen in most external characters, differing in the shining mesoscutum and tibia 2 with 3 ventral setae

### *Mycetophila eppingensis* sp. n. (Figs 40–44)

Male. Head shining dark brown; clypeus grey dusted. Antenna with scape, pedicel and base of first flagellomere yellow, rest brown; flagellomeres from second onwards nearly twice as long as broad. Palpus yellow.

Thorax shining dark brown with broad yellow humeral area on each side of broad median brown stripe to fore margin and narrower yellow prescutellar patch on each side. Scutellum mainly dull yellow, brown basally. Pleura and mediotergite dark brown. Decumbent mesoscutal and anepisternal setae yellow, stronger marginal setae including postalar, prescutellar, two pairs of strong scutellars and strong setae on prothorax dark brown; short setae on laterotergite yellow, stronger darker setae on posterior margin of anepisternum and upper margin of anepimeron.

Legs yellow except dark brown apical quarter of femur 3. Tibia 2 with 3 anterior, 1 anterodorsal (beyond anterior setae), 5 dorsal, 2 short posterior (near tip) and 3 long ventral setae. Tibia 3 with 7 anterior (4th to 6th setae shorter), 0 anterodorsal, 6 dorsal (basal short, but no shorter interspersed setae) and 2 short weak posterior



Figs 40–44. Genitalia of *Mycetophila eppingensis* sp. n. 40–43, male: 40, ventral view of gonocoxites and gonostyli (only ventral stylomere of right gonostylus included); 41, dorsal stylomere of right gonostylus; 42, aedeagus; 43, tergite 9 and cerci. 44, female, lateral view. Scale line 0.1 (male), 0.2 mm (female).

(near tip) setae. Tibia 2 with first two rows and tibia 3 with first anterior row of setulae (adjacent to anterior setae) dark brown, the rest on 3 mainly yellowish but becoming dark in several rows near tip.

Wing yellow with two strong brown markings: a median spot around  $R_s$  and  $r-m$  from  $R_1$ , filling base of cell  $r_5$  and extending into base of median fork; preapical marking distal to tip of  $R_1$ , reaching tip of  $R_5$  and narrowed basad behind  $R_5$ , becoming fainter towards  $M_1$  and ending just beyond it, but a small patch present on adjacent part of  $M_2$ . Radial veins except  $R_s$  strongly setose below,  $R$  with 38–40 setae below, 3–8 weaker setae below apical part of  $tb$ , similar to the weaker setae on the fork veins. Haltere yellow.

Abdomen with tergite 1 and broad band on each of tergites 2–6 dark brown, the fore and hind margins of these tergites broadly yellow, sternites yellow. Genitalia

(Figs 40–43) brownish yellow. Gonostylus (Figs 40–41): ventral stylomere with rounded distal lobe and one strong seta set in concave apical margin; dorsal stylomere short and broad with a long apical seta.

Wing length 3.0–3.1 mm.

Female. Generally similar to male. Abdomen more extensively darkened, tergites 2–6 with only apical margin yellow. Ovipositor (Fig. 44) slightly brownish, slender, with two segmented cerci. Tarsus of fore leg slightly enlarged below tarsomeres 2–3.

Wing length 3.2 mm.

Holotype male, ENGLAND, *Essex*, Epping Forest, “Wake/Sunshine” area (TQ421988), by Wake Valley Lake, 18.viii.1998 (Chandler, deposited in NMS).

*Paratypes*: ENGLAND: 1 male, *Essex*, Epping Forest, Great Monk Wood (TQ418983), 18.viii.1998; 1 female, *Essex*, Epping Forest, Cuckoo Pits (TQ401957), 17.viii.1998 (both D.M. Ackland, in author’s collection); 1 male, *Oxon*, Spartum Fen, 15.x.1999 (Chandler); 1 male, *Hants*, Leckford, Water Garden, 11.xi.1999 (Chandler).

*Discussion*. The collection sites at Epping Forest were deciduous woodland dominated by beech (*Fagus sylvatica*), the other sites mixed woodland. This species belongs to group E of Laffoon (1957) and runs in his key to the Holarctic species *M. laeta* (Walker) because of presence of some setae below vein tb, but differs from *laeta* in the form of the gonostylus. *M. laeta* also has the thorax yellow with three dark stripes on the mesoscutum.

*M. eppingensis* is distinguished from other British species with setae below tb by these being present only near the tip of the vein and by the absence of short setae between the strong dorsal setae on tibia 3. Among species with tb bare, it agrees in chaetotactic and wing marking characters with *luctuosa* Meigen and *deflexa* sp. n.; and with the latter in thoracic colouring but differs from it in the second row of anterior setulae on tibia 3 being dark only near the tip.

### The *Mycetophila signata* Meigen Group

The Palaearctic species of this group were revised by Zaitzev (1999), who figured the male genitalia. British specimens of *alea* (Laffoon), *sigillata* Dziedzicki, *signata* Meigen and *blanda* Winnertz agree with his figures, but the common British species *M. signatoides* Dziedzicki is figured as *M. assimilis* Matile, 1967 which is here regarded as synonymous with *signatoides*. It is concluded that the species figured by Zaitzev as *signatoides* is different. Zaitzev recorded both species from European Russia, but his *signatoides* more rarely.

### *Mycetophila stricklandi* (Laffoon)

This belongs to the *signata* group and can be determined from the figures by Laffoon (1957) and Zaitzev (1999). In the mainly dark brown body coloration and other external characters it resembles *M. blanda* and since it was first recognised as British from the find at Spring Wood, Boltby, three specimens were found to have previously been misidentified as *blanda*. The Scottish record was also from a conifer plantation but the Irish specimen was from a beech (*Fagus*) wood.

According to Laffoon (1957). North American specimens often have the tergites apically or more extensively yellow, but the British specimens have the abdomen entirely dark brown. They differ from *blanda* in having only a small paler central patch on the scutellum, whereas in *blanda* the scutellum is broadly yellow medially and there is a distinct yellow prescutellar spot on the scutum; *stricklandi* also has



more dark setulae in the first anterior row on the hind tibia, these reaching nearly to the tip while *blanda* has dark setulae only in the middle part of this row.

British material of *M. stricklandi*:

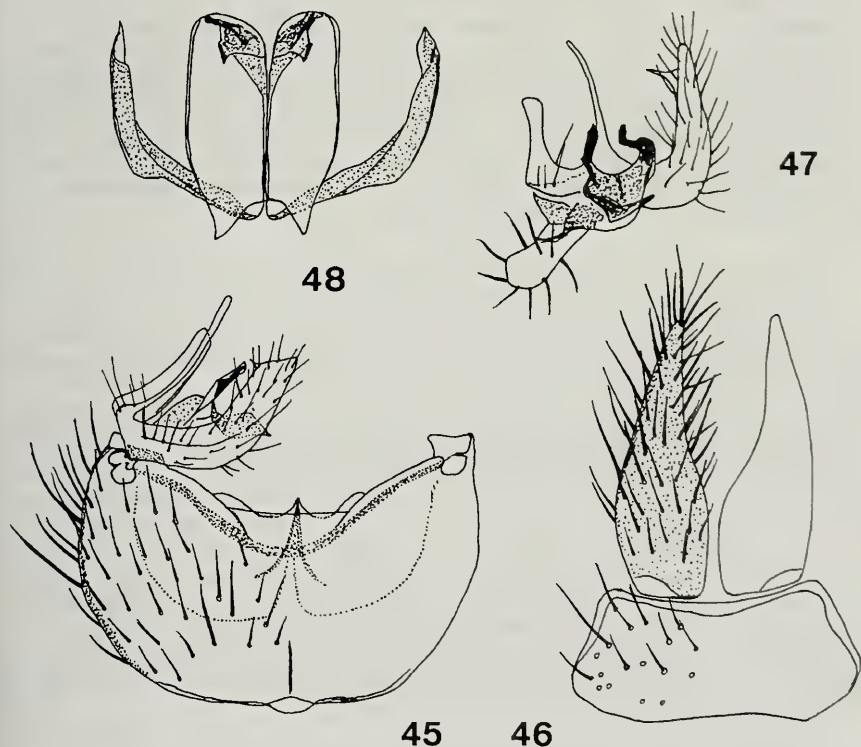
ENGLAND: *North Yorks*, Langthwaite, 26.vi.1981, 1 male (I.F.G. McLean) and Boltby, Spring Wood, 19.vii.1996, 1 male (Chandler). SCOTLAND: *Perthshire*, Tummel Forest, 28.v.1973, 1 male (Chandler). IRELAND: *Wicklow*, Killakee, 8.v.1988, 1 male (Chandler).

***Phronia carli* sp. n. (Figs 45–48)**

*Phronia longelamellata*: Lundström, 1906, misidentification, not Strobl, 1898

Male. Head grey dusted. Antenna with scape, pedicel and first flagellomere yellow, rest of flagellum dark grey. Palpus yellow.

Thorax mainly brownish yellow, with three vague brown stripes on disc of mesoscutum, the median broadened in front and almost reaching fore margin, the



Figs 45–48. Male genitalia of *Phronia carli* sp. n. 45, ventral view of gonocoxites and gonostylus; 46, tergite 9 and cerci; 47, internal view of gonostylus; 48, aedeagus.

laterals only behind humeral area. Scutellum apically, laterotergite and mediotergite brownish. All setae brown.

Legs yellow, with apical quarter to third of hind femur and tip of hind tibia brown. Tibia 2 with 3–4 anterodorsal, 3–4 posterodorsal and 7 posterior setae. Tibia 3 with 9 anterodorsal, 13–16 posterodorsal and 6 posterior (on apical two fifths) setae.

Wing yellowish with brown costa and radial veins. Stem of median fork up to twice as long as r-m.

Abdomen with tergites 1–3 mainly yellow, 2–3 dark brown dorsally, tergite 4 with yellow lateral triangle basally, rest and tergites 5–6 dark brown. Genitalia (Figs 45–47) yellow. Cercus (Fig. 46) elongate, extending a little beyond tip of gonostylus in situ. Gonostylus with lateral portion comprising a curved strap-like ventral lobe and a narrow dorsal lobe (Figs 45, 47).

Wing length 2.7–3.2mm.

Female. Unknown.

Holotype male, SCOTLAND, *Perthshire*, Bridge of Balgie, 10.vii.1988, oak (*Quercus*) and beech (*Fagus*) woodland (Chandler, deposited in NMS).

*Paratypes*: SCOTLAND: 2 males, *Ross*, Easter Fearn, birch (*Betula*) woods, 11.vi.1984; 1 male, *Ross*, Beinn Eighe NNR, 10.vi.1984; 1 male, *Sutherland*, Migdale Wood, 28.v.1994; 1 male, *Sutherland*, Torboll Wood, 26.vi.1999 (Chandler); 1 male, *Argyll*, Ariundle, 10.vi.1982 (A.E. Stubbs).

*Etymology*. Named for Carl Lundström who first recognised this species.

*Discussion*. I added *P. longelamellata* Strobl to the British list (Chandler, 1992b), but this was based on the figures by Lundström (1906) of a Finnish male. Kallweit (1998) has studied Strobl's types and found that *longelamellata* is a senior synonym of *P. minuta* Landrock. Lundström (1906) identified as *longelamellata* a species with long cerci (his "upper lamellae"), which he thought agreed with Strobl's description, but in *minuta* it is the gonostyli which are elongate. Lundström did not describe his species further and it is here described as new.

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## SHORT COMMUNICATION

***Ranatra linearis* (L.) (Heteroptera: Nepidae) in flight**—My numerous previous encounters with *Ranatra* had left me in no doubt that it must fly quite frequently, as I have regularly found adults in isolated, ephemeral water bodies. Clegg (1952) simply states that it ‘can fly’, but Chinery (1972) erroneously states that it is winged but flightless. I had long harboured a great desire to see the water stick-insect fly, as it looks such an unlikely aeronaut. At c.11.45 am on 12.v.2000, I was using a pond net to sample some small, temporary pools on Churt Flashes, Surrey (SU83). I had never seen *Ranatra* there before, despite annually dipping the ponds since 1988. With the first trawl of my net I caught a large adult. Unusually the bug adopted a sprightly stance right up on the tips of its tarsi. Just for a second I thought the impossible might happen, but it didn’t, so I placed it back in the water. A minute later at the next pond my friend Dr Rob McGibbon and I were treated to the most amazing sight of a *Ranatra* (possibly the one I had just caught) on the wing. It flew at about shoulder height with the body and front legs held parallel to the ground. The middle and hind legs were outstretched downwards at 90° to the body, and the tarsi appeared to be pressed together. The abdomen showed up bright red, and at a casual glance it could easily be mistaken for a red damselfly (*Ceriatrion* or *Pyrhosoma*), if it wasn’t for the very peculiar direct and level flight, with wide slow turns. This is at odds with Joan Hardingham’s observations of a *Ranatra* flying in Suffolk (Chalkley, 1996). She stated that the ‘body is held at 60°’, but also that ‘the wings are of a russetty colour like an earwig’s’, presumably as a result of confusing the wings (which are colourless) with the abdomen beneath.

This all too brief excursion into the air was curtailed by a headlong kamikaze dive at the pond edge ending in a half-submerged crash landing. The bug remained in this position for at least five minutes. The combination of shock and delight had left me doubled up in hysterics and my companion clearly feared for my sanity, until I explained just how privileged we were to see such a rare sight.

That this phenomenon should be observed on a fairly typical warm spring day makes it all the more surprising that it isn’t witnessed more often.—JONTY DENTON, 2 Sandown Close, Alton, Hants GU34 2TG, UK

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